Porous Pavement

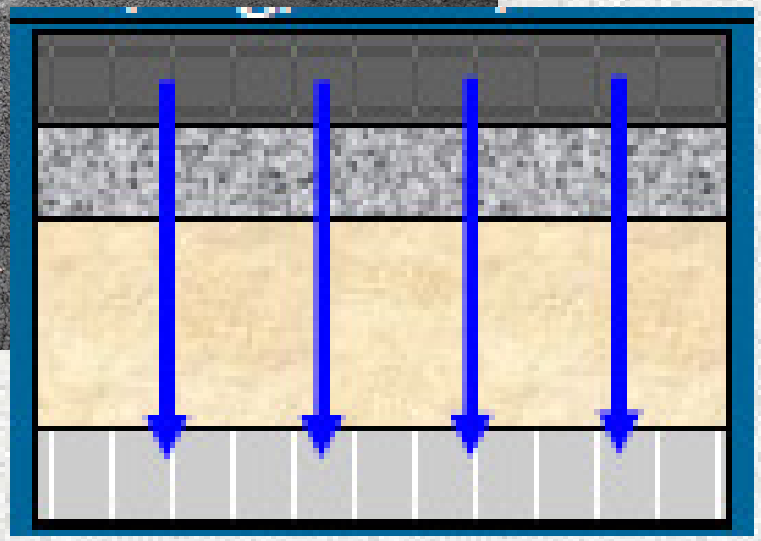
and Winter Maintenance

Pervious Asphalt

Pervious Concrete

Permeable Pavers

How Pervious Pavement Works



Threats to Water

Quality and Quantity

Regulations and Development

University of New Hampshire
UNH Stormwater Center

Winter Maintenance Guidelines for Porous Pavements





Porous Pavement

and Winter Maintenance

Justin Gamester, Piscataqua Landscaping & Tree Service

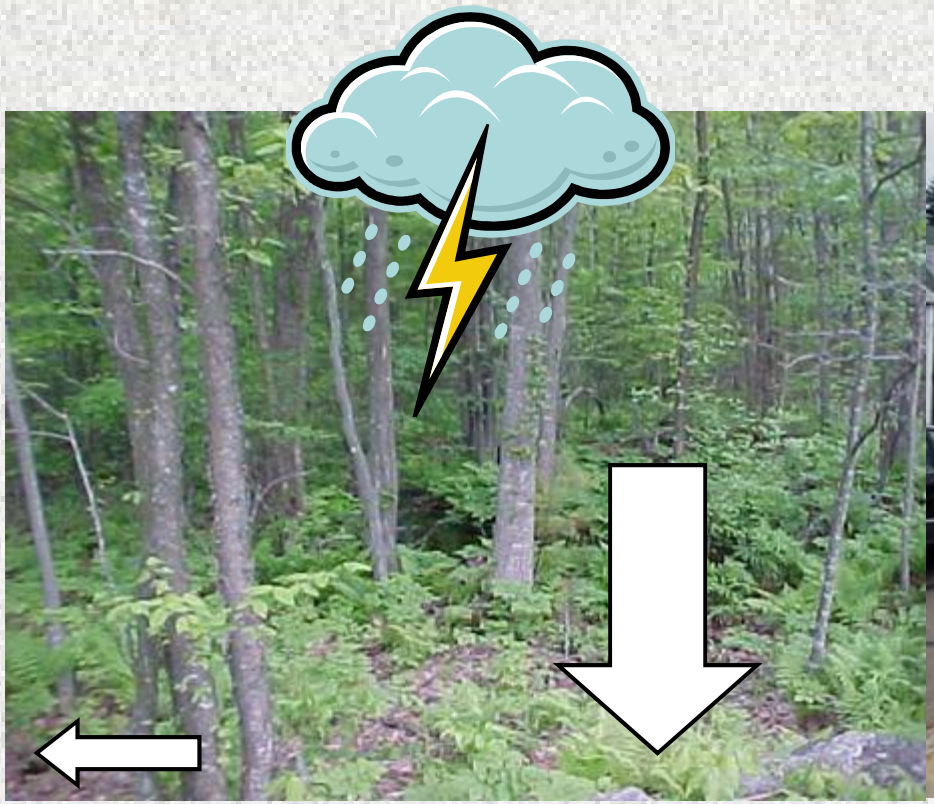
Heidi Lemay, Hoyle, Tanner & Associates, Inc.

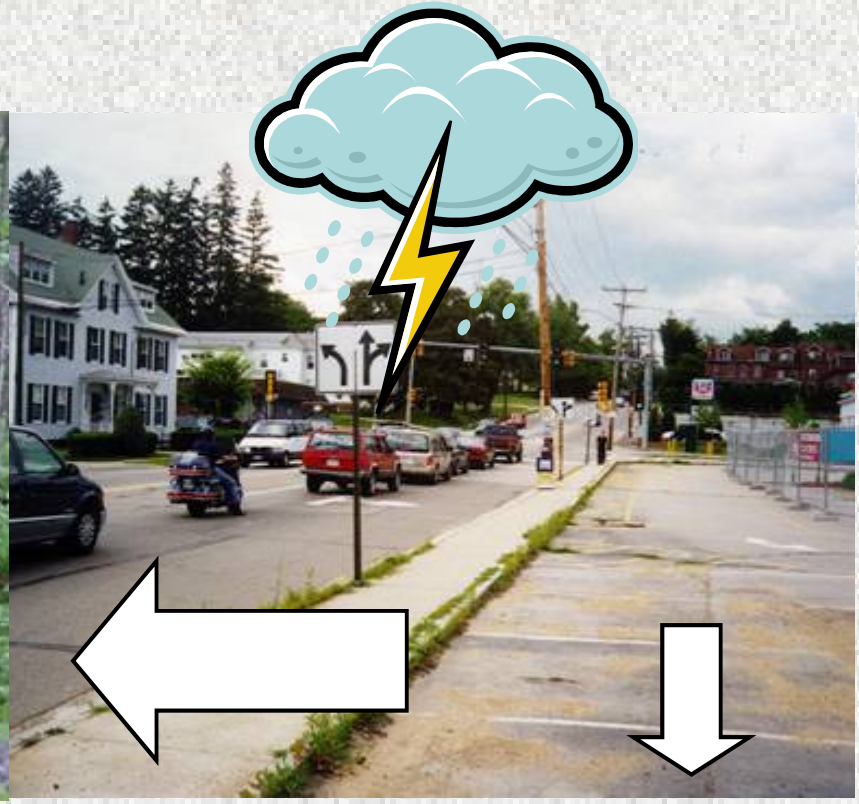
DRIVEWAY (walkways/patios)

Common Problem

Driveways, walkways, and patios can increase the volume of stormwater by preventing infiltration which increases the chance of flooding and can erode adjacent soils.

Effects of Development on Water distribution



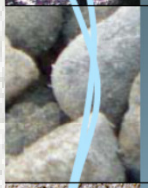
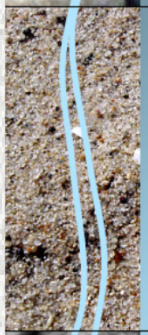
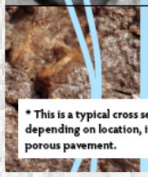


10% **50%** **55%** **15%**

You are standing on

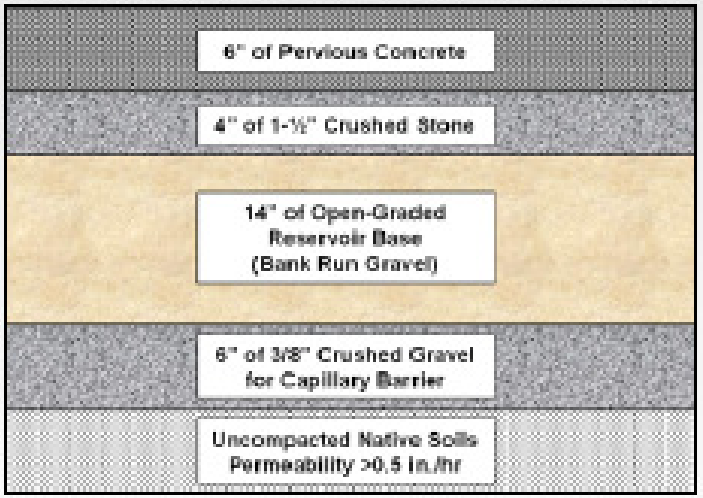
Porous Pavement

Putting stormwater in its place

Layers*	Functions	Benefits
 **4 inches** of **porous pavement** (asphalt, concrete or concrete pavers)	**Porosity** Porous pavement has pores allowing stormwater to flow through the material. Additives maintain its strength.	**Salt & Traction** Because stormwater drains there is little or no winter ice. Salt application can be reduced up to 75%. The surface maintains traction when wet.
 **4 inches** of **3/4" crushed stone**	**Support** Crushed stone provides support as vehicles travel over the surface.	**Cost** Porous pavement can be less expensive than standard pavement if it reduces construction of other stormwater infrastructure.
 **8-12 inches** of **sand**	**Reservoir & Treatment** This layer acts as a reservoir to hold stormwater, where it is slowly released to the soil. Natural treatment of many stormwater pollutants occurs here.	**Water Quality & Temperature** Phosphorous, zinc, suspended solids and petroleum hydrocarbons are dramatically reduced. Stormwater can reach 120 degrees. Temperature is decreased as water passes through layers.
 **4 inches** of **3/4"+ crushed stone**	**Frost Prevention** This layer "disconnects" the water from potential freezing conditions that could stop stormwater flow.	**Life Span** Porous pavement works in Northeast winters. Reduced freeze/thaw improves life span and reduces repairs.
 **Base soil**	**Water Flow** Stormwater reaches the natural soil layer. It can slowly enter ground water and flow to waterbodies.	**Water Quantity** Reducing stormwater flow helps control flooding. Slow release of water maintains river and stream levels.

* This is a typical cross section which may change depending on location, intended use and type of porous pavement.

Typical Parking Lot S



TYPICAL CROSS-SECTION

4" of 2 1/2" g

3" of 3/8" gravel

15" of sand

4" of 1 1/2" gravel

Typical Parking Lot Excavation